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Obtegomeria (Lamiaceae), a New Genus from South America

Philip D. Cantino

Department of Environmental and Plant Biology, Ohio University,
Athens, Ohio 45701-2979, U.S.A.

Anton Doroszenko

CAB International, Wallingford, OX10 8DE, U.K.

ABSTRACT. *Obtegomeria* Doroszenko & P. D. Cantino, a new genus based on *Satureja* sect. *Obtectae* Epling & Játiva, is distinguished from the rest of the *Satureja* complex by the combination of stiffly ascending, replicate leaves, lower lip of the corolla nearly to fully as long as the tube, and reticulate pollen. *Obtegomeria* is monotypic and endemic to Colombia. The new combination *Obtegomeria caerulea* (Benth.) Doroszenko & P. D. Cantino is provided.

The *Satureja* complex (*Satureja* L. s.l.) occurs in both the Old and New Worlds and has been variably treated as a single genus (Briquet, 1895–1897; Epling & Játiva, 1964, 1966) or as many as 17 (Doroszenko, 1985). The authors of this paper have differing views on the classification of *Satureja* s.l. Using a phenetic approach, one of us recognizes seven genera in the New World (Doroszenko, 1985), while the other has made a phylogenetic argument for recognizing only three (Cantino & Wagstaff, 1998). However, we agree that *Obtegomeria* warrants segregation. It is separated from the rest of the complex by a substantial phenetic gap and has four probable synapomorphies. There is no evidence that its segregation would render any other genus paraphyletic. *Obtegomeria* is monotypic and endemic to the Sierra Nevada de Santa Marta in northeastern Colombia.

A numerical cluster analysis (Doroszenko, 1985) found *Obtegomeria caerulea* to be among the most phenetically distinct species in the complex.

It pairs most closely with *Piloblephis* Rafinesque, a monotypic North American genus that has been excluded from *Satureja* (Cantino & Wagstaff, 1998) based on a chloroplast DNA restriction site analysis (Wagstaff et al., 1995) that did not include *Obtegomeria*. The similarity between *Obtegomeria* and *Piloblephis* is limited to vegetative features (both are ericoid shrubs with tightly revolute leaves); they differ greatly in inflorescence and floral morphology.

Obtegomeria may be distinguished from all other members of the *Satureja* complex by the combination of stiffly ascending, consistently replicate leaves (i.e., so strongly revolute that the lower surface is completely hidden) and a corolla limb that is nearly to fully as long as (i.e., 0.8–1.0×) the tube. These three characteristics are individually rare in the *Satureja* complex and probably apomorphic; their combination is unique to *Obtegomeria*. Many members of the Old World genus *Micromeria* Benth. (part of the *Satureja* complex) have revolute leaves, and the lower surface is sometimes hidden when the leaves are narrow, but this is rarely a consistent feature as in *Obtegomeria*. In the New World members of the *Satureja* complex, replicate leaves occur only in *Obtegomeria* and *Satureja fasciculata* (Benth.) Briquet (better treated as a species of *Clinopodium* (Cantino & Wagstaff, 1998), but the new combination has not been made). *Satureja fasciculata* lacks the other distinguishing features of *Obtegomeria* and differs so greatly in calyx and inflorescence morphology that

a close relationship seems very unlikely. Similarly, floral and inflorescence morphology and geography argue against a close relationship between *Obtegomeria* and the replicate-leaved species of *Micromeria*. Thus we hypothesize that replicate leaves evolved independently in these taxa.

Another probable apomorphy of *Obtegomeria* is its reticulate pollen (Wagstaff, 1992). Reticulate pollen (as opposed to microreticulate, suprareticulate, or both; terminology follows Vezey et al., 1992) is rare in the Labiatae (Pozhidaev, 1989; Trudel & Morton, 1992; Wagstaff, 1992; Abu-Asab & Cantino, 1994), but a much larger sample of *Satureja* s.l. will be needed before one can be confident that this feature is diagnostic of *Obtegomeria*.

Cantino and Wagstaff (1998) opposed recognition of many of the segregate genera of *Satureja* s.l. because doing so would render other genera paraphyletic. There is no evidence that this is the case for *Obtegomeria*. We are unaware of any species within another genus that one could argue might be its sister group. Indeed, it is so distinctive that we cannot suggest what its closest relative might be. From both phenetic and phylogenetic perspectives, it merits recognition at the genus level.

Obtegomeria Doroszenko & P. D. Cantino, gen. nov. Based on *Satureja* sect. *Obtectae* Epling & Játiva, Brittonia 16: 407. 1964. TYPE: *Satureja caerulea* (Benth.) Epling.

Frutices ericoides; folia subsessilia, rigide ascendunt, replicata, pagina infera obtecta; calyx valde zygomorphus, tubo 11–13 nervi; corolla bilabiata, labio infero tubum fere vel perfecte aequantem; pollinis grana 6-colpata, reticulata, non suprareticulata.

Low ericoid shrubs; leaves subsessile, stiffly ascending, linear-oblong, replicate, lower surface completely hidden; flowers axillary, solitary, with 2 lanceolate bracteoles near base of pedicel; calyx strongly zygomorphic, tube 11–13-nerved, densely villous in throat, upper three lobes deltoid-cuspidate, fused to form a lip, lower two lobes lance-subulate, free above tube; corolla bilabiate, tube funnellform, upper lip flat, deeply bifid, lower lip 0.8–1.0× the tube, 3-lobed, median lobe largest, notched; stamens four, didynamous (anterior pair longer), included, thecae divaricate, not confluent; pollen 6-colpate, reticulate, not suprareticulate; style unequally 2-lobed; nutlets ellipsoid, glabrous.

Etymology. From Latin *obtegens* (covering over) and Greek *meris* (a part), referring to the hidden lower surface of the leaf.

Obtegomeria caerulea (Benth.) Doroszenko & P. D. Cantino, comb. nov. Basionym: *Hedeoma? caerulea* Benth., in A. DC., Prodr. 12: 245. 1848. *Calamintha caerulea* (Benth.) Weddell, Chlor. Andina 2: 149, t. 63. 1860. *Clinopodium caerulea* (Benth.) C. Kuntze, Revis. Gen. Pl. 2: 515. 1891. *Satureja caerulea* (Benth.) Epling, in Reper. Spec. Nov. Regni Veg. Beih. 85: 156. 1936. TYPE: Colombia. Magdalena: Sierra de Santa Marta, *Purdie s.n.* (holotype, K; isotypes, E, GH).

Satureja lindeniana Briquet, Annuaire Conserv. Jard. Bot. Genève 2: 191. 1898. TYPE: Colombia. Sierra de Santa Marta, *Funck 394, Schlim 821, Linden 1622* (syntypes, G).

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